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10/502,350	06/03/2005	Hans-Jurgen Dohren	APV31808	8110
24257 7590 01/23/2008 STEVENS DAVIS MILLER & MOSHER, LLP 1615 L STREET, NW SUITE 850 WASHINGTON, DC 20036				
EXAMINER				
FRANKS, RYAN J				
ART UNIT		PAPER NUMBER		
4155				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/502,350

**Applicant(s)**

DOHREN ET AL.

**Examiner**

RYAN J. FRANKS

**Art Unit**

4155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- Paper No(s)/Mail Date 7/23/2004
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 8 and 12 are objected to because of the following informalities:

For the purposes of examination, examiner has assumed that the first word of claim 8, "Metal", should be changed to "Method".

In claim 12, the phrasing "two standing flanges" is used initially. The singular word "flange" is later used. The phrase "parallel to the flange, such that the flange gets a" should be changed to "parallel to the flanges, such that the flanges get a".

Appropriate correction is required.

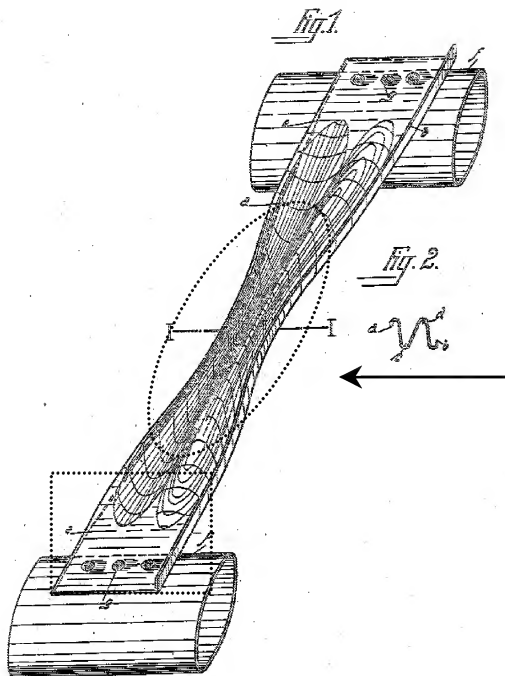
### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Junkers (US Patent 1,424,912).



Figs. 1 and 2 from Junkers

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Regarding claim 1, Junkers discloses "A metal sheet for building purposes, comprising a panel (Fig. 1 in general) and two standing flanges lengthwise at opposite sides of the panel (Fig. 1, elements a and b), wherein one or both flanges have a non-rectilinear form in the plane of the panel (Fig. 1, flanges a and b can be seen to be curved in the plane of the panel), wherein the panel contains one or more corrugations substantially parallel to one or both of the flanges, which corrugation or corrugations give the flange or flanges the non-rectilinear (corrugations c and d are parallel and give curve to flanges a and b)."

Regarding claim 2, Junkers discloses that "one or both flanges have a substantially convex form" (Fig. 1, flange a looking in direction of arrow)

Regarding claim 3, Junkers discloses that "one or both flanges have a substantially concave form" (Fig. 1, flange b looking in direction of arrow)

Regarding claim 4, Junkers discloses that "a corrugation or corrugations are present in the portion of the panel at the end or the ends of the length of the sheet" (Fig. 1, corrugation present in dashed box at end).

Regarding claim 5, Junkers discloses that "a corrugation or corrugations are present in the portion of the panel substantially halfway the length of the sheet" (Fig. 1, corrugations present in dashed oval).

Regarding claim 6, Junkers discloses that "the sheet is a substantially tapered sheet" (Fig. 1, sheet is tapered in that it has reduced height at ends away from line I-I).

Regarding claim 7, Junkers discloses that "the sheet is a curved sheet" (Fig. 1, sheet is curved both along the flanges a and b and at elements c and d, best exemplified via the cross sectional view in Fig. 2)

3. Concerning claims 8-10, given the structure of Junkers, the claimed method steps would inherently be performed when making the metal sheet disclosed by Junkers.

More specifically:

Regarding claim 8, the structure discussed is found in Junkers (see rejection of claim 1). For corrugations to be present, they must be formed.

Regarding claim 9, Junkers discloses that corrugations are "formed over part of the length of the panel" (Fig. 1 in general).

Regarding claim 10, Junkers discloses that corrugations are formed "having different portions with a different height" (Fig. 1, height of corrugations decreases moving towards either end away from line I-I).

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Junkers in view of Hikida (US Patent 3,686,917).

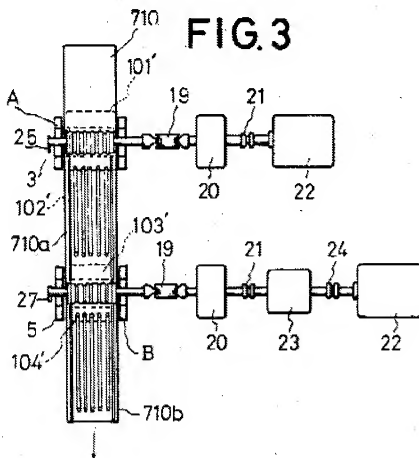


Fig. 3 from Hikida

Regarding claim 11, Junkers discloses the method of forming the metal sheet as described previously with regard to claim 8, but lacks that "the corrugation or corrugations are formed using one or more profiled rolls" (Fig. 3, elements 3 and 5).

Hikida teaches that it is known in the art to form corrugations with profiled rolls. The use of profiled rolls allows corrugations to be formed consistently and quickly.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method inherent to Junkers by using profiled rolls similar to that of Hikida in order to consistently and efficiently form corrugations.

6. Claims 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikida (US Patent 3,686,917) in view of Junkers (US Patent 1,424,912).

Regarding claim 12, Hikida discloses "apparatus for forming a metal sheet for building purposes" including "means for forming one or more corrugations in [a] panel" (Fig. 3 in general) but lacks the structure of the panel.

Junkers, as described previously in the rejection of claims 1-7, teaches "A metal sheet for building purposes...comprising a panel (Fig. 1 in general) and two standing flanges lengthwise at opposite sides of the panel" (Fig. 1, elements a and b) with "one or more corrugations in the panel substantially parallel to the flange[s], such that the flange[s]



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[get] a non-rectilinear form in the plane of the panel" (corrugations c and d are parallel and give curve to flanges a and b)."

Making the metal sheet of Junkers allows buildings with complex curved forms to be made from the sheets.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Hikida to make the sheet of Junkers in order to be able to make buildings with complex curved forms.

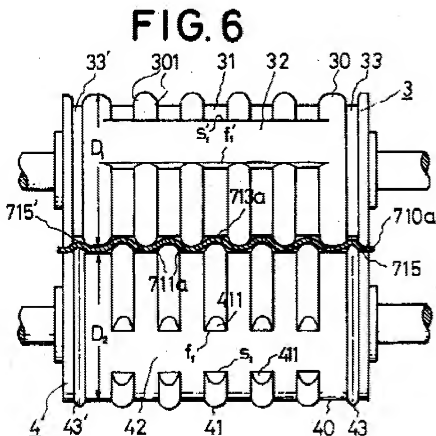


Fig. 6 from Hikida

Regarding claim 13, Hikida discloses "means for aligning the flange of the metal sheet, parallel to which the corrugations have to be formed by the forming means" (Fig. 6, elements 43 and 43' align flanges 715 and 715' parallel to rolling surface 40 which forms corrugations).

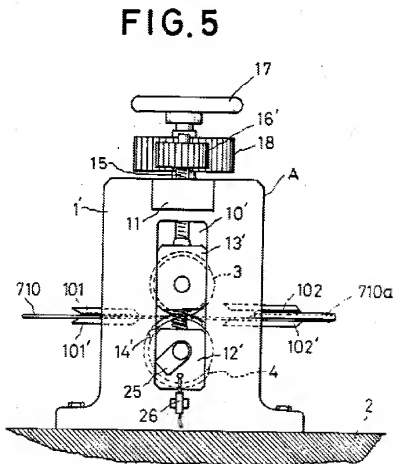


Fig. 5 from Hikida

Regarding claim 14, Hikida discloses "means for guiding the flange after the corrugations have been formed by the forming means" (Fig. 5, elements 102 and 102')

Regarding claim 15, Hikida discloses "one or more rolls having a circular protrusion, where the cross section of the protrusion corresponds to the cross-section of the corrugations to be formed" (Fig. 3, elements 3 and 5).

Regarding claim 16, Hikida discloses that "the roll or rolls with a circular protrusion are motor driven" (Fig. 3, element 22 is an electric motor which drives the rolls).

Regarding claim 17, the rolls of Hikida are replaceable. Old rolls are capable of being sawed off with a hack saw and new ones are capable of being installed and connected via spot welding.

Regarding claim 18, Hikida discloses "means for aligning the flange of the metal sheet, parallel to which the corrugations have to be formed by the forming means" (Fig. 6, elements 43 and 43' align flanges 715 and 715' parallel to rolling surface 40 which forms corrugations) "and means for driving the sheet through the forming means" (Fig. 5, rolls 3 and 4 drive the sheet through the forming means as roll 3 is connected to motor 22 from Fig. 3)

Regarding claim 19, Hikida discloses "means for guiding the flange after the corrugations have been formed by the forming means," (Fig. 5, elements 102 and 102') "and preferably comprising means for drawing the sheet through the forming means" (Fig. 5, the sheet is drawn through the forming means by roll 3 which is rotated by motor 22 from Fig. 3).

Regarding claim 20, Hikida discloses that "the forming means comprise one or more rolls having a circular protrusion where the cross-section of the protrusion essentially corresponds to the cross section of the corrugation to be formed (Fig. 3, elements 3 and 5), and one or more cooperating rolls having a complimentary recess" (Fig. 6, element 4 is complimentary to element 3).

Regarding claim 21, Hikida discloses that the "roll or rolls with a circular protrusion are motor driven (Fig. 3, element 22 is an electric motor which drives the rolls) and adjustable in height" (Fig. 5, element 17 adjusts height of roller via bearing 13', shaft 15, and gear 16').

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN J. FRANKS whose telephone number is (571)270-3743. The examiner can normally be reached on Mon.-Thurs., alternating Fri., 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victor Batson can be reached on (571) 272-6987. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor Batson/  
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Supervisory Patent Examiner  
Art Unit 4155

/R. J. F./  
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